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TEA LIGHT HOLDER

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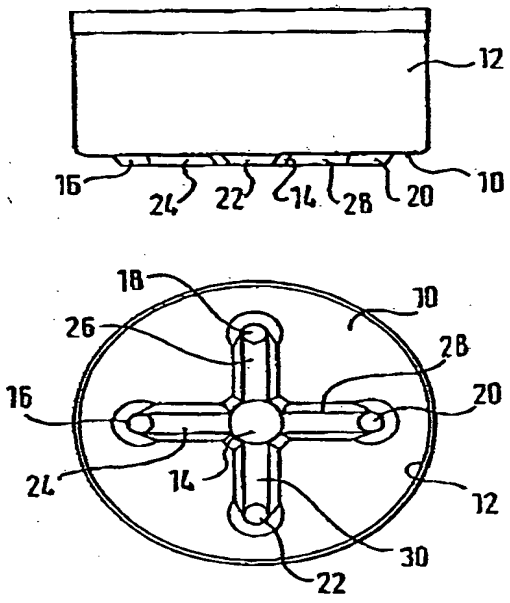
A tea light holder with a bottom (10) and an outside wall (12) has a centric depression (14) in the bottom (10) and four additional depressions (16-22) at some distance from it. To assure a complete burnout of the tea light, groove-like connections (24-30) are provided in the holder bottom (10) between the centric depression (14) and the additional depressions (16-22) and they are lower than the holder bottom (10) but not lower than the additional depressions (16-22).



Specification

The present invention concerns a tea light holder with a bottom and an outside wall, where a centric depression and at least one additional depression at some distance from it are formed in the bottom.

Such tea light holders are known and serve to accommodate a fuel insert, usually of wax or paraffin, where the heating of the tea light occurs with the aid of a wick that is passed through a slender channel in the fuel insert. The lower end of the wick is usually fastened in a wick holder that is formed of a metal plate of steel, where a lead-through is provided in the middle of the metal plate, through which the wick end is passed so that it is almost flush with the underside of the wick holder. The wick is fastened in the wick holder by clamping in the lead-through.

In such known tea light holders, which are usually of aluminum, the wick holder is placed on the bottom of the holder inside of or above the centric depression, which is to fix the wick holder in place and concentrate the liquid fuel for a practically residue-free combustion. The other depressions formed in the holder bottom, usually four approximately semispherical feet (however only a single circular stiffening bead is conceivable), serve to hold the tea light holder away from the placement surface so that the substrate is not overheated when the fuel supply is being burned.

Such known tea light holders should be suitable for reuse in order to save raw materials, e.g., aluminum. It is essential here for determining the value of the metal in scrapping as well as the metal yield relative to the gross weight of the burned-out tea light holder in the melting process to recover the material that as little adherence of foreign material as possible be present on the holder. In the conventional tea light holders described above a relatively large amount of fuel, i.e., wax or paraffin, remains in the holder after the tea light is extinguished, which also prevents the removal of the wick holder that generally consists of steel, whereby the recycling process is disturbed and the raw material is insufficiently utilized.

The problem underlying the invention is to offer a tea light holder that facilitates a practically complete utilization of the raw material and can lead to a problem-free reuse.

The problem is solved by the features of Claim 1, especially in that a connection is provided in the holder bottom between the centric depression and each additional depression that is deeper than the holder bottom, but not deeper than the additional depressions.

According to the invention, a flow connection for the liquid fuel is produced between the centric depression and the other depressions, in which liquid fuel always collects, through this connection between the centric depression and the additional depressions, which serve as feet. The liquid fuel can get into the centric depression completely during burning and is drawn up from there by the wick end and supplied to the point of combustion. Surprisingly, this continuous flow of the liquid fuel can basically occur without a gradient because the liquid fuel is sucked up by the wick due to its consistency and flows continuously by itself from the additional depressions through the connection to the centric depression.

Substantial advantages are offered by the tea light holder according to the invention. One is that a complete burnout is obtained, by which the wick holder and the holder, which usually consist of different materials, can be easily separated from each other and recycled. Relative to the same burning time as conventional tea lights, the amount of fuel and holder material can be substantially reduced, i.e., less raw material is required and thus scarce resources are spared. One significant advantage of the invention is that the wick holder of steel can be easily removed and recycled, also free of wax, because it is no longer held fast by previously liquid and then hardened fuel residues.

A grave and offering light is known from DE 42 42 509 A1, whose vessel consists of a biodegradable substance with a fire-retardant, also biodegradable additive. To achieve a complete burning of the fuel right to the bottom, a funnel-shaped insertion channel is provided for the wick in a socket of the vessel. However, this insertion channel

is only in the middle around the wick and has no flow possibility for the liquid wax on the completely flat holder bottom.

A plastic beaker for block lights is also known from DE 17 29 878 A1. It has a depression for receiving a wick holder in the container bottom, where the wick holder can be designed with star-shaped arms. A space is produced between the wick end and the holder bottom by raising the wick end due to the star-shaped arms in the same manner as in the above prior art by providing the centric depression.

Finally, a container with a fuel reserve and a wick holder is known from EP 0 195 699 A1; it has a deepened collecting channel on the periphery of the container bottom. Such a collecting channel collects fuel residues, however, so that they cannot be burned, which is to be avoided according to the invention.

Advantageous embodiments of the invention are characterized by the dependent claims.

According to one advantageous embodiment, the connection can be channel-like, which favors a continuous flow of the liquid fuel in the direction of the centric depression. By providing several channels the additional depressions that serve as feet can also drop out here because their function is taken over by the channels.

According to another advantageous embodiment, the connection and/or the container bottom provided with the connection can have a gradient in the direction of the centric depression, which can improve the flow of liquid fuel in the direction of the centric depression with certain fuel types.

According to another advantageous embodiment of the invention, the connection can be designed on the whole as a cone.

According to another embodiment of the invention, the passage between the bottom and outside wall is depression-free and preferably rounded or beveled in the interior of the container. Collection of fuel residues at this site of the container is thus avoided. If the bottom between the outside wall and additional depression is also provided with a gradient in the direction of the additional depression, all the liquid fuel can get from this region into the additional depression and from there through the connection into the centric depression. From there, it is finally drawn up by the wick and burned completely.

The present invention is described in an exemplary manner in the following on the basis of advantageous embodiments with reference to the attached drawings.

Figure 1A shows a side view of a first embodiment of a tea light holder.

Figure 1B shows a top view of the tea light holder of Figure 1A.

Figure 2A shows a cross sectional view of a second embodiment of a tea light holder with wick, wick holder and fuel reserve.

Figure 2B shows a top view of the tea light holder of Figure 2A, but without a wick, wick holder and fuel reserve.

Figure 3A shows a side view of another embodiment of a tea light holder.

Figure 3B shows a top view of the tea light holder of Figure 3A.

Figure 4A shows a side view of another embodiment of a tea light holder.

Figure 4B shows a top view of the tea light holder of Figure 4A.

Figure 4C shows a top [sic; side] view of the tea light holder of Figure 4A, which is additionally provided with channels.

Figures 1A and 1B show a first embodiment of a tea light holder, where the term tea lights also includes party lights, offering lights, grave lights as well as block lights of time [period] burners or food warmers and similar lights.

The tea light container shown is produced in one piece of aluminum and has a circular bottom 10 with an outside wall 12 jointed to it. A centric depression 14 is impressed in the bottom 10 and four additional depressions 16, 18, 20 and 22 are designed concentrically to and spaced away from it, which represent the feet of the container and prevent an overheating of the substrate.

As elucidated in Figure 1B in particular, channel-like connections 24, 26, 28 and 30 are provided in the container bottom 10 between the centric depression 14 and the four additional depressions 16-22. As Figure 1A shows, these connections are lower than the container bottom 10, but not deeper than the foot-like depressions 16-22. A secure container stand is thus obtained and excessive heating of the substrate is avoided.

Figure 2A shows another embodiment of a tea light holder with three feet 16, 18 and 20 and connections 24, 26 and 28 between the feet and the centric depression 14. Here the fuel reserve 36 of paraffin used in the tea light holder can be seen in Figure 2A; on the paraffin underside there is a depression 38 for receiving a wick holder 34. A wick 37 is passed here through a centric passage in the fuel reserve 36. The lower end of the wick is clamped in the plate-like wick holder 34, which is of steel, and ends almost flush with the underside of the wick holder 34. Under it there is a space for liquid fuel, which corresponds to the centric depression 14.

Figures 3A and 3B show another embodiment of a tea light holder that corresponds essentially to the tea light holder shown in Figures 2A and 2B. In the holder shown in Figures 3A and 3B, however, the connections 24, 26 and 28 between the centric depression 14 and the other depressions 16, 18 and 20 are provided with lateral beveling that runs slightly conically in the direction of the centric depression 14.

Finally, Figures 4A and 4B show another embodiment of a tea light holder, in which the connection between the centric depression 14 and the depressions 16, 18, 20 and 22 spaced concentrically from it is designed as a cone 32, which thus has a gradient in the direction of the centric depression 14.

An embodiment similar to Figure 4A is shown in Figure 4C, where four channel-like connections 24 that extend between each foot and the center of the cone are provided in addition to the cone 32.

As is evident in Figures 1A, 2A, 3A and 4A, the transition between the bottom 10 and the outside wall 12 is rounded in the container interior, i.e., this passage has no depressions in which liquid fuel could lag behind.

Claims

1. Tea light holder with a bottom (10) and an outside wall (12), in which there are a centric depression (14) and at least one other depression (16-22) spaced away from it, characterized in that a connection (24-30; 32) that is lower than the container bottom (10) but not lower than the other depressions (16-22) is provided in the container bottom (10) between the centric depression (14) and each other depression (16-22).

2. Container according to Claim 1, characterized in that the connection (24-30) is designed channel-like.

3. Container according to at least one of the preceding claims, characterized in that the connection (24-30; 32) and/or the container bottom (10) provided with the connection has a gradient in the direction of the centric depression (14).

4. Container according to at least one of the preceding claims, characterized in that the connection (24-30) runs radially.

5. Container according to Claim 1, characterized in that the connection is designed as a cone (32).

6. Container according to at least one of the preceding claims, characterized in that the passage in the container interior between the bottom (10) and outside wall (12) is depression-free and preferably rounded or beveled.

7. Container according to at least one of the preceding claims, characterized in that the bottom (10) between the outside wall (12) and the other depressions (16-22) is designed with a gradient in the direction of the other depressions (16-22).

8. Container according to at least one of the preceding claims, characterized in that a plate-like wick holder (34), preferably of steel, is located above the centric depression (14).

9. Container according to Claim 8, characterized in that a fuel charge (36) is located in it and has a depression (38) for receiving the wick holder (36) in its underside.

10. Container according to at least one of the preceding claims, characterized in that the additional depression (16-22) is formed by the connection itself (24-30; 32).

Fig. 4C